

Amendments to and Listing of the Claims:

1-2. Cancelled.

3. (Currently amended) ~~A method for enhancing information derived from acoustically inspected samples, comprising: deriving an acoustic image of a sample; and generating a visual superposition of one or more additional images of the sample selected from the group consisting of: an optical image, a second acoustic image in a different sized field of view from said acoustic image, or in a different mode of acquisition, an infrared image, an X-ray image, and an electron beam image, The method defined by claim 1 wherein said superposed images are rendered in an opaque mode, and wherein an image overlying another image is partially cut away to expose the underlying image.~~

4-5. Cancelled.

6. (Currently amended) ~~The method defined by claim 4 3 wherein an ultrasonic probe is used, and said derived acoustic image is of a sample interior area or volume, said superposed images are rendered in an opaque mode, and wherein an image overlying another image is partially cut away to expose the underlying image.~~

7. Cancelled.

8. (Currently amended) ~~A method for enhancing information derived from acoustically inspected samples, comprising: using an ultrasonic probe, deriving an acoustic image of a sample interior area or volume; and generating a visual superposition of one or more additional images of the sample selected from the group consisting of: an optical image, a second acoustic image in a different sized field of view from said acoustic image, or in a different mode of acquisition, an infrared image, an X-ray image, and an electron beam image, The method defined by claim 7~~

wherein the sample is a PC board, and ~~one of said one or more additional wherein the optical images is a digital photograph, and of the sample exterior rendered in a mode such that impedance anomalies exhibited in said acoustic image are visible concurrently with said digital photograph of the sample exterior.~~ wherein the transparent mode is employed to visualize both additional images simultaneously.

9. (Currently Amended) ~~A method for enhancing information derived from acoustically inspected samples, comprising: using an ultrasonic probe, deriving an acoustic image of a sample interior area or volume; and generating a visual superposition of one or more additional images of the sample selected from the group consisting of: an optical image, a second acoustic image in a different sized field of view from said acoustic image, or in a different mode of acquisition, an infrared image, an X-ray image, and an electron beam image. The method defined by claim 4~~ wherein one of said additional images is an infrared image of the sample rendered in a mode such that impedance anomalies exhibited in said acoustic image are visible concurrently with the infrared image of the sample.

10. (Currently Amended) ~~A method for enhancing information derived from acoustically inspected samples, comprising: using an ultrasonic probe, deriving an acoustic image of a sample interior area or volume; and generating a visual superposition of one or more additional images of the sample selected from the group consisting of: an optical image, a second acoustic image in a different sized field of view from said acoustic image, or in a different mode of acquisition, an infrared image, an X-ray image, and an electron beam image. The method defined by claim 4~~ wherein one of said additional images is an electron optical image of the sample exterior rendered in a mode such that impedance anomalies exhibited in said acoustic image are visible concurrently with the electron optical image of the sample exterior.

11-12. Cancelled.

13. (Currently Amended) ~~A method for enhancing information derived from acoustically inspected samples, comprising: using an ultrasonic probe, deriving an acoustic image of a sample interior area or volume; and generating a visual superposition of one or more additional images of the sample selected from the group consisting of: an optical image, a second acoustic image in a different sized field of view from said acoustic image, or in a different mode of acquisition, an infrared image, an X-ray image, and an electron beam image, wherein one of said additional images is a second acoustic image generated at the same or different depth as said acoustic image, but with a larger or smaller field of view, The method defined by claim 12 and wherein~~ the second acoustic image is an image of the sample exterior rendered in a mode such that impedance anomalies exhibited in said acoustic image of the sample interior area or volume are visible concurrently with the acoustic image of the sample exterior.

14. Cancelled.

15. (Currently Amended) ~~The method defined by claim 9 further including an additional image that The method defined by claim 4 wherein a first of said additional images is an optical image of the exterior of the sample and a second of said additional images is a infrared image of the sample such that impedance anomalies exhibited in said acoustic image of the sample interior area or volume are visible concurrently with the optical and infrared images.~~

16. (Original) The method defined by 15 wherein the sample is a printed circuit board.

17-18. Cancelled.

19. (Currently Amended) ~~The method defined by claim 17 3 wherein said superposed images are rendered in an opaque mode, and wherein an image overlying another image is partially cut away to expose the underlying image: one or more of said additional one or more additional images is a derived image.~~

20-21. Cancelled.

22. (Currently Amended) The method defined by claim ~~20~~ 19 wherein ~~said superposed additional images are rendered in an opaque mode, and wherein an image overlying another image is partially cut away to expose the underlying image. an ultrasonic probe is used, and said derived acoustic image is of a sample interior or volume.~~

23. Cancelled.

24. (Currently Amended) The method defined by claim ~~23~~ 8 wherein ~~the sample is a PC board, wherein the optical image is a digital photograph, and wherein the transparent mode is employed to visualize both images simultaneously. one or more of said one or more additional images is a derived image.~~

25. (Currently Amended) The method defined by claim ~~20~~ 9 wherein ~~one or more of said one or more additional images is a derived image. of said additional images is a infrared image of the sample rendered in a mode such that impedance anomalies exhibited in said acoustic image are visible concurrently with the infrared image of the sample.~~

26. (Currently Amended) The method defined by claim ~~20~~ 10 wherein ~~one or more of said one or more additional images is a derived image. of said additional images is an electron optical image of the sample exterior rendered in a mode such that impedance anomalies exhibited in said acoustic image are visible concurrently with the electron optical image of the sample exterior.~~

27. Cancelled.

28. (Currently Amended) The method defined by claim 20 13 wherein ~~the second acoustic image is an image of the sample exterior rendered in a mode such that impedance anomalies exhibited in said acoustic image of the sample interior area or volume are visible concurrently with the acoustic image of the sample exterior. one or more of said one or more additional images is a derived image.~~

29. Cancelled.

30. (Currently Amended) The method defined by claim 20 15 wherein ~~one or more of said one or more additional images is a derived image. a first of said additional images is an optical image of the exterior of the sample and a second of said additional images is a infrared image of the sample such that impedance anomalies exhibited in said acoustic image of the sample interior area or volume are visible concurrently with the optical and infrared images.~~

31. (Currently Amended) The method defined by claim 30 wherein the sample is a printed circuit board.

32-35. Cancelled.

36. (Currently Amended) A method for enhancing information on acoustically inspected samples, comprising: using an ultrasonic probe, deriving first electrical signals characterizing an acoustic image of a sample interior area or volume; deriving one or more additional electrical signals characterizing one or more images of the sample selected from the group consisting of: optical, acoustic, infrared, X-ray, and electron beam; processing said first signal and said one or more additional signals to develop a display signal; using the display signal to generate a visual display; and processing said display signal to create special visual effects in said display, wherein one of said additional images is an optical image of the sample exterior. The method defined by claim 35 wherein the sample is a printed circuit board, and wherein the optical image is a digital photograph.

37. Cancelled.

38. (Currently Amended) ~~A method for enhancing information on acoustically inspected samples, comprising: using an ultrasonic probe, deriving first electrical signals characterizing an acoustic image of a sample interior area or volume; deriving one or more additional electrical signals characterizing one or more images of the sample selected from the group consisting of: optical, acoustic, infrared, X-ray, and electron beam; processing said first signal and said one or more additional signals to develop a display signal; using the display signal to generate a visual display; and processing said display signal to create special visual effects in said display, The method defined by claim 34 wherein one of said additional images is an electron optical image of the sample.~~

39. Cancelled.

40. (Currently Amended) ~~A method for enhancing information on acoustically inspected samples, comprising: using an ultrasonic probe, deriving first electrical signals characterizing an acoustic image of a sample interior area or volume; deriving one or more additional electrical signals characterizing one or more images of the sample selected from the group consisting of: optical, acoustic, infrared, X-ray, and electron beam; processing said first signal and said one or more additional signals to develop a display signal; using the display signal to generate a visual display; and processing said display signal to create special visual effects in said display, The method defined by claim 34 wherein a first of said additional images is an optical image of the exterior of the sample and a second of said additional images is a infrared image of the sample.~~

41-45. Cancelled.

46. (New) The method defined by claim 8 wherein a transparent mode is employed to

visualize the digital photographic image and the acoustic image simultaneously.

47. (New) The method of claim 24 wherein a transparent mode is employed to visualize the digital photographic image and the acoustic image simultaneously.